

Local Seismic Networks to Reach a Reliable Activity Detection of Earthquake Sources

Local, regional and global research of the Earth's interior is the oldest goal of seismology. Seismic networks are and will be probably forever the only tool that enables study of the detailed structure and physical properties of the Earth. The inherent error in regional and global networks are as high that can't give accuracy to determine the exact trend and depth of seismic sources and enough evaluation for early warning networks and rapid response systems which can effectively reduce the natural hazard of earthquakes. Recently, many local networks are operating for various goals of seismology in Iran and this definitely will increase the quality of studies and can prepare lots of informative data that directly relates to seismic hazard assessment. These networks have reduced the magnitude of completeness of seismic catalogs and increase the knowledge of crustal properties which will prepare a huge data bank to define realistic 2D, 3D earth models. These data banks are introduced and some recent advantages of them are discussed. They play a great role on seismic hazard mitigation especially in country such as Iran with high rate of seismicity.

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Track Classification: Theme 3: Advances in Sensors, Networks and Processing